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Technology Centre, St Andrews Road, Malvern, Worcs.
WR14 3PS (GB).

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(74) Agent: A W S WILLIAMS; QinetiQ Ltd, IP Formalities, Cody Technology Park, A4 Building, Room G016, Ively Road, Farnborough, Hampshire GU14 0LX (GB).

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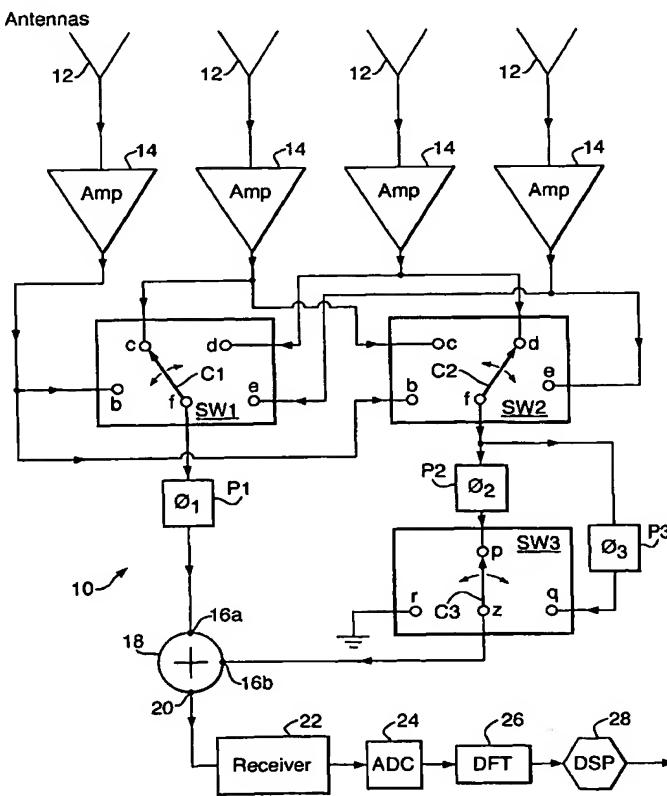
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(71) Applicant (for all designated States except US): QINETIQ LIMITED [GB/GB]; Registered Office, 85 Buckingham Gate, London SW1E 6PD (GB).

(72) Inventor; and
(75) Inventor/Applicant (for US only): MACLEOD, Malcolm, David [GB/GB]; QinetiQ Malvern, Malvern

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(54) Title: DIRECTION FINDING



(57) Abstract: Direction finding by radio comprises arranging an array of antennas (12), to receive signals from emitters, selecting individual antenna signals using a first multipole switch (SW1) and determining antenna signal strengths. Individual antenna signals are also selected by a second multipole switch (SW2), which routes a selected signal to a third multipole switch (SW3). The third switch (SW3) switches a phase shifter (P3) into and out of an antenna signal path. An adder (18) is employed to add an antenna signal in a first signal path extending via the first multipole switch (SW1) to a different antenna signal in a second signal path extending via the second and third switches (SW2, SW3). This determines combined signal strengths between pairs of antenna signals, one of which either has or has not been relatively phase shifted depending on the third switch position. Covariance matrix elements are determined from signal strengths enabling emitter bearings to be derived.

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